

ON A COMPLETE DEBOUCHEMENT OF THE SULCUS
 ROLANDO INTO THE FISSURA SYLVII IN SOME
 BRAINS OF AUSTRALIAN ABORIGINALS.

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(Plate 18.)

One of the most characteristic of the Sulci of the human brain, as well as one of the first [recognisable at the end of the fifth month] is, as we know, the Sulcus Rolando.

By reason of the constancy of the presence of this Sulcus in the human brain, the variations of the same appear to me the more important. A complete junction of the Sulcus Rolando with the Fissura Sylvii is very rare in the brains of our race, though a case of this variation has been described by Turner. Prof. D. Zernoff, who has studied the *individual* types of the Sulci in the human brain and has published a very interesting and useful work (1) about the subject, has carefully examined the Sulci of not less than 100 brains, which have served him as material for this work, does not mention one case of this variation (2). Prof. A. Ecker in his work about the Convolutions of the human brain (3) says:—A

(1). *Individual Types of the Sulci in the human brain.* By D. Zernoff, Professor of Anatomy of the University of Moskow. With 74 woodcuts. Moskow 1877. (in Russian).

(2) Prof. Zernoff says:—"About their (the Sulci in general), constancy and variation of shape there exists in the literature very different accounts. But all agree, that Fis. Rolando and the Ram. Ascendens fis. Sylvii are absolutely constant and their individual variations are insignificant. . . . As regards variableness in the position and outlines the fis. Rolando is the least susceptible. All its individual peculiarities are limited to small variations in the position of the upper end, sometimes a little further forward, sometimes further back. Its lower end approaches more or less the horizontal ramus of the fis. Sylvii." (Loc. cit., p. 11.)

(3). *On the Convolutions of the human brain.* By Dr. A. Ecker, Professor of Anatomy and Comparative Anatomy in the University of Freiburg, Baden. Translated by John C. Galton, M.A. Oxon., M.R.C.S., F.L.S. London, 1873.

complete "Debouchement of the Central Sulcus into the Fissure of Sylvius, "such as is described by Turner, has not yet come under my "observation" (1).

Having examined a considerable number of brains myself, I have never observed it before 1881. It was in a brain of an Australian Aboriginal who died in the Sydney Infirmary.

The Sulcus Rolando was connected with the Fissura Sylvii only in the right hemisphere; in the left, it terminated very near the edge of the horizontal ramus of the Fissura Sylvii. With the exception of the complete debouchement of the Sulcus Rolando into the Fissura Sylvii, the position and the course of the former presented in this brain nothing abnormal. (Fig. 2, A.-B.), gives the illustrations of the case (2).

Since my return from Europe, I was fortunate enough to obtain two other brains of Australian Aborigines.

It was again on the right hemisphere of one of these brains, that the variation presented itself. (Fig. 1 A). A little lower than the middle, the Sulcus Rolando divides into two rami; one, running obliquely down, taking the usual course of the Sulcus Rolando; the other, the posterior, joining the Sulcus interparietalis, runs likewise down to the Fissura Sylvii. [This second or posterior ramus can be regarded just as well as an abnormal extension of the Sulcus interparietalis, as the closer examination of the corresponding Sulci of the left hemisphere (fig. 1 B) makes it easy to understand.] On the left hemisphere of the same brain, there is a junction between the Sulcus Rolando and the Sulcus præcentralis.

The two cases of the complete Debouchement of the Sulcus Rolando into the Fissura Sylvii, are also remarkable, because, out of four brains of Australian Aborigines which I have had the opportunity of examining, *two* showed this peculiarity.

(1). Loc. cit. p. 11.

(2). The specimen which served as the original to these illustrations, is, I am sorry to say, one of the five brains of my collection which were burned in the Linnean Societys Rooms during the fire of the Exhibition building in 1882.

Having examined carefully more brains of men belonging to the dark races, I may also state that junctions of the Sulcus Rolando with the other Sulci, are not uncommon and, very likely, occur more frequently than in the brain of men of our race.

EXPLANATION OF PLATE 18.

Fig. 1, A.—Part of the right hemisphere of the Cerebrum of the Australian Aboriginal, showing a complete junction of the *Sulcus Rolando* (R.), with the horizontal ramus of the Fiss Sylvii (S.)

B.—Corresponding part of the left hemisphere of the same brain, showing a junction of the *Sulcus Rolando* (R.) with the *Sulcus præcentralis* (P.)

Fig. 2, A.—Part of the right hemisphere of the brain of another Australian Aboriginal, showing also a complete debouchement of the *Sulcus Rolando* into the Fiss. Sylvii (S.)

B.—Corresponding part of the left hemisphere of the same brain.

The same lettering in all the figures.

R.—*Sulcus Rolando.*

S.—*Fissura Sylvii.*

S'.—*Ramus ascendens Fiss. Sylvii.*

T.—*Sulcus Interparietalis.*

F.—*Sulcus frontalis, Imp.*

P.—*Fiss. Præcentralis.*

T.—*Sulcus Temporo Sphenoidalis primus.*